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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 8052007

Application Number: 09/097,383

Filing Date: June 16, 1998

Appellant(s): Christiansen, Kare

Tyson Winarski
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 5, 2005.

The appeal brief is filed in the new format under the revised BPAI final rule before the effective date of the BPAI final rule. The Office published the BPAI final rule to amend the rules governing practice before the BPAI in *ex parte* patent appeals. *See Rules of Practice Before the Board of Patent Appeals and Interferences in Ex Parte Appeals; Final Rule*, 73 FR 32938 (June 10, 2008), 1332 Off. Gaz. Pat. Office 47 (July 1, 2008). However, the effective date

for the BPAI final rule has been delayed. *See Rules of Practice Before the Board of Patent Appeals and Interferences in Ex Parte Appeals; Delay of Effective and Applicability Dates*, 73 FR 74972 (December 10, 2008). In the notice published on November 20, 2008, the Office indicated that the Office will not hold an appeal brief as non-compliant solely for following the new format even though it is filed before the effective date. *See Clarification of the Effective Date Provision in the Final Rule for Ex Parte Appeals*, 73 FR 70282 (November 20, 2008). Since the appeal brief is otherwise acceptable, the Office has accepted the appeal brief filed by appellant.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Appeal No. 2006-3215 on 09/097,383, Decided on September 13, 2007

(4) Status of Amendments After Final

The statement of the status of amendments contained in the Brief is correct.

(6) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

NON-APPEALABLE ISSUE IN BRIEF

Appellant's brief presents arguments relating to the objection to the specification as failing to provide proper antecedent basis for the claimed subject matter. This issue relates to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP § 1002 and § 1201.

(7) *Claims Appendix*

The statement of the status of claims contained in the brief is substantially correct. Claim 22 is listed twice with two different status identifiers. The correct status identifier for Claim 22 is canceled.

It is noted that the dependency of claim 23, as it appears in the Claim Appendix is incorrect. Claim 23 depends from claim 1 (see amendment of January 19, 2006).

It is further noted that Claim 8, as it appears in the appeal brief is incorrect. Claim 8 was amended in the amendment of February 27, 2008 to read:

8. Apparatus as claimed in claim 2, wherein a flow path defined by said means for defining a flow path forms a closed circuit around which said water circulates.

(8) Listing of Evidence Relied Upon

The following is a listing of the prior art of evidence (e.g. patents, publications Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

Number (Title)	Name	Date
1,677,016	Berry et al	July 10, 1928
3,703,176	Vassiliadis et al	November 21, 1972
5,320,618	Gustafsson	June 14, 1994
5,620,478	Eckhouse	April 15, 1997
5,785,844	Anderson et al	April 7, 1998
“High Performance Flash and Arc Lamps”	Unknown	Unknown, Rec'd in PTO, 1/1995
Data Sheet for OG 550 Filter	Unknown	June 1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 23 are rejected under 3 U.S.C. 103(a) as being unpatentable over Eckhouse in combination with Berry. Eckhouse teaches a device as claimed except for the specific recitation of the use of water in conjunction with the embodiment otherwise reading on the claims. Berry teaches an arc lamp using water to filter infra red and cool the lamp as well as an applicator with a convex tip. It would have been obvious to the artisan of ordinary skill to employ the cooling system of Berry in the device of Eckhouse, since Eckhouse teaches that it is important to keep the tissue surface cool, or alternatively to employ the lamp of Eckhouse in the

treatment device of Berry, since Eckhouse teaches the performing invasive procedures (see column 10, lines 26-27) thus producing a device such as claimed.

Claims 1-3 and 8 are rejected under 3 U.S.C. 103(a) as being unpatentable over Eckhouse in combination with Berry as applied to claims 1 and 23 are above, and further in view of Gustafsson. Gustafsson teaches a xenon lamp using circulating water to cool flash tubes and an optical fiber applicator with a convex tip. It would have been obvious to the artisan of ordinary skill to employ the lamp and cooling system; of Gustafsson in the device of Eckhouse as modified by Berry, since the cooling system of Gustafsson makes the lamp much more effective (see column 2, line 62 to column 3, line 6), thus producing a device such as claimed.

Claims 10-15, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eckhouse in combination with Berry and Gustafsson as applied to claims 1-3 and 8 above, and further in view of Anderson et al and Optoelectronics. Optoelectronics teaches the use of power supplies that use simmers circuits and apply square pulse to the flask tube. Anderson et al teach the use of square wave pulses and a convex applicator tip. It would have been obvious to the artisan of ordinary skill to employ an applicator tip as taught by Anderson et al since this allows treatment of a larger area, as taught by Anderson et al; to employ the square wave light pulses therein, since this allows a more uniform optical field; to apply a simmer circuit and a power supply to produce square pulses, since these will aid in the production of flat topped optical pulses, which is desirable as taught by Anderson et al; and to provide a concave or parallelepiped shape at the light guide distal end, since these are equivalent to the convex tip and provide no unexpected result, thus producing a device such as claimed.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eckhouse in combination with Berry and Gustafsson as applied to claims 1-3 and 8 are above, and further in view of Vassiliadis et al. Vassiliadis et al teach the desirability of employing an interlock on a filter. It would have been obvious to the artisan of ordinary skill to employ an interlock on the filter in the device of Eckhouse or Gustafsson since this would provide a safer device, thus producing a device such as claimed.

(10) Response to Argument

A) Claims 1 And 23 Are Properly Rejected Under 35 U.S.C. 103(a) As Being Unpatentable Over Eckhouse in Combination With Berry

First appellant begins noting that the “purpose of the Eckhouse apparatus is to cause heating. That is all the Eckhouse device is for.” (see the instant Brief, page 13, second and third sentences). The examiner must respectfully disagree. A careful reading of the Eckhouse reference reveals that Eckhouse envisions myriad usages for his device which do not require heating, including: “in a photography application to provide a flash for picture taking” (column 9, lines 9-10); treatment of psoriasis and warts (column 16, line 43); throat lesions and gynecological problems (column 16, lines 46-47). Thus the presumptions of the limitations of the teachings of Eckhouse upon which appellant has chosen to base his arguments are incorrect, and as such these arguments must fail.

Proceeding, appellant states that all the wavelengths employed by Eckhouse are applied for their heating abilities, asserting that there “is no particular logic in Eckhouse for filtering out certain wavelengths just because they are called by Berry ‘heat radiations’”. However the logic

behind the combination is not based on filtering out certain wavelengths because of what they are called by Berry. The logic behind the combination derives instead from the teachings of Eckhouse, specifically those at column 11, line 8-19, for example, wherein various treatments are described, some of which use the infrared light (which, according to appellant, are wavelengths above about 750 nm (see the instant Brief, page 15, first full paragraph, second sentence)), and some of which are limited to visible wavelengths only, such as the treatment of arteries and veins less than 0.1 mm in diameter, which are limited to wavelengths less than 700 nm. Put simply, Eckhouse explicitly calls for treatments that require the filtering out of infrared (as well as other treatments that don't), and when desiring to perform such treatments, one of ordinary skill in the art would employ a filter to do so, since as explicitly disclosed by Eckhouse (see column 5, line 25), and as noted by appellant (see the instant Brief, page 15, first full paragraph, second sentence), the lamp of Eckhouse produces wavelengths in the range of 300-1000 nm. Thus there is no logical conflict in the combining of Eckhouse and Berry, as purported by appellant. It is also noted that, Eckhouse also goes to great lengths to point out that myriad filters may be employed in the device, including "combinations of various filters described herein, or other filters, may be used" (see the sentence bridging columns 10 and 11).

The next point of argument pursued by appellant is that the examiner's assertion in the Final Rejection mailed June 11, 2008 that Berry seeks to block transmission of heat to the surface of the tissue is erroneous, since "Berry says nothing about the surface of any tissue". However, the examiner must respectfully note that the disclosures of patents are directed to those of ordinary skill in the art, and such persons would realize that the "body cavity" proposed to be treated by Berry (see column 1, line 10) would inherently have a surface (albeit an internal,

rather than external surface, but a surface none the less) which is kept cool by the absorption (i.e. filtering out) of infra red light. Additionally, it is also noted that among the various uses proposed by Eckhouse for the lamp described therein are “invasive medical applications” (column 10, line 26-27) and “throat lesions” (column 16, lines 46-47), which clearly involve internal application of the light, as is done in Berry.

Further, as noted by appellant, Eckhouse does desire to keep the tissue cool, and one means of doing this is to monitor the skin temperature via infra red emission in real time (see the instant Brief, page 15, second sentence). If infra red light were used in the treatment, some of the infra red light produced by the lamp would reflect off the skin, giving an erroneous reading of the temperature thereof.

Turning to the disclosure of Eckhouse at column 11, line 12, where Eckhouse discloses the use of treatment light in the 520-650 nm range appellant asserts that if “that were used, all the infra-red (>750 nm) would be removed, such that a water filter would be redundant” (see the instant Brief, the sentence bridging pages 15 and 16). However, appellant disregards the fact that this disclosed treatment wavelength range, which specifically excludes the use of the infra red range, can, as one of ordinary skill in the art would readily appreciate, be produced by any of the various alternative filtering regime discussed in the preceding paragraphs of Eckhouse (see column 10, line 51 to column 11, line 3):

“The light guides described above may be used in another alternative embodiment to control the spectrum of light delivered to the treatment area. Spectral control can be achieved by making the light guide from a material that had an absorbing dye dissolved therein. Thus, light transmitted by the light guide will have a spectrum in as determined by the absorbing dye. Alternatively, a flat, discrete filter may be added to one end (preferably the input end) of the light guide. Both of these filters are absorbing filters. The inventors have found that

absorbing filters produced by Schott, having Model Nos. OG515, OG550, OG570, and OG590 have suitable characteristics.

Additionally, interference filters or reflective coatings on the light guide may be used by applying a proper optical coating to the light guide. Again, a single discrete interference filter could also be used. Additionally, **combinations of the various filters described herein, or other filters, may be used.** The use of the filters described here may render the use of the filters described earlier with reference to FIG. 1 redundant.” (emphasis added)

Next appellant references the examiner’s comments in the Advisory Action mailed

September 17, 2008, asserting that the passage referred to by the examiner “by no means suggests a need to remove longer wavelengths” (see the instant Brief, page 16, second full paragraph, first sentence). While the passage, by itself may not suggest filtering, when taken in the context of the entirety of the Eckhouse disclosure, which dedicates a substantial portion of the disclosure to the discussion of filtering (as evidenced by the above passage), clearly suggests the removal of longer (and shorter wavelengths, depending on the treatment employed).

Then appellant discusses the teachings of Eckhouse as set forth in column 2 thereof, asserting that the desire expressed by Eckhouse of using certain wavelength ranges should not be construed as a desire not to use longer wavelengths which are not mentioned in the desired treatment range. The examiner must respectfully disagree. Such an assertion flies in the face of the totality of the teachings of the Eckhouse reference, and the suggestions one of ordinary skill in the art would derive therefrom. When providing medical treatments it is important only to treat the pathological tissue. The destruction of healthy tissue is undesirable, therefore, the deep heating caused by the penetrating infra red light would be avoided when using the visible wavelengths discussed by Eckhouse as desirable for treating tissue nearer the surface and would thus be filtered out by one of ordinary skill in the art, when providing such a treatment. Regardless of this, however, there exist treatments wherein the use of infra red light is not

desirable, as in the treatment described by Berry. And since Eckhouse envisions and teaches that the device disclosed therein be used for wide ranging purposes, from industrial to medical, including invasive medical procedures, such as that taught by Berry, there are clearly procedures which the one of ordinary skill in the art would understand the Eckhouse device would be useful for (again, such as that of Berry) where the application of infra red light is not desirable, and such light would be filtered out before the light was applied to the patient. Thus appellant's arguing of only the preferred embodiment of the Eckhouse device, treating the skin, are not convincing in light of the many other applications taught to be appropriate for the Eckhouse device.

Continuing, appellant asserts that the examiner is providing a "completely wrong interpretation" (see the instant Brief, page 20, penultimate sentence) in regarding the call to use light in the visible range as a suggestion to omit light in the ranges not mentioned, including the infra red. The examiner must respectfully disagree. The examiner respectfully submits that the statement at column 11, lines 9-11: "The optical properties of the light guide will be chosen to **optimize** the particular treatment. The wavelengths below are particularly useful for the respective treatments" (emphasis added). Clearly, when treating small diameter surface veins, the heating of deeper, healthy veins by the penetrating infra red light would not be desirable or optimum, as set forth above. Further, the use of the device to treat the skin, while the preferred embodiment, is but one of the many applications taught by Eckhouse for this device. Thus it is apparent that the examiner's interpretation of the exclusion of infrared radiation for some (but not all) of the applications taught by Eckhouse is entirely reasonable.

With regard to the measuring of temperature, appellant argues that Eckhouse indicates that the measurement of temperature using infrared radiation is easily done, and concludes that the noise resulting from the infra red reflecting off the skin would somehow be mitigated. The examiner notes that the disclosures are directed to one of ordinary skill in the art, and one of ordinary skill in the art would understand that producing intermittent pulses containing the radiation which is being measured by the temperature sensor to produce a temperature reading would produce erroneous temperature readings, and that in order to measure the temperature "easily" one would filter out the infra red from the applied pulse, so as not to have it impinge on the detector. However, the fact remains that there are non-skin treatment embodiments of Eckhouse that would benefit from not applying infra red radiation in the pulses.

Continuing, appellant asserts that the examiner "fails to point out what in Eckhouse is being substituted. The examiner apologizes if this point was insufficiently explained in the prosecution of the instant case, although it is curious that appellant should raise this issue for the first time on appeal. The examiner will now clarify this point. The examiner is suggesting that the water filter of Berry be used in the device of Eckhouse for those applications wherein the application of infra red to whatever is receiving the light (such as internal tissue, in the case of invasive medical applications, as discussed at column 10, lines 26-27 of Eckhouse, for example in a procedure such as taught by Berry).

Lastly appellant accuses the examiner of failing to give proper deference to the previous Decision by the Board. The examiner vigorously traverses this assertion. The examiner has given and will continue to give this Decision and future Decisions by the Board their full and proper deference. In the examiner's view the issue at bar is an entirely different one from that in

the previous appeal. In the previous appeal the examiner erroneously attempted to combine embodiments from the same reference that should not have been combined. Here, however, the examiner has provided a separate reference, exemplifying one of the embodiments of the Eckhouse device (albeit not the preferred, skin treatment embodiment, but a still duly disclosed embodiment such as invasive medical application), which specifically teaches the desirability of filtering out infra red using water as the filtering element, while the filtering element is also used as a cooling device, this does not render the combination any less legitimate, since filtering is clearly taught thereby. Further, Berry also teaches an arc lamp contained within a housing with an aperture, and a window therein, similar to the lamp of Figure 1 of Eckhouse, which assembly produces light at a sufficient intensity to require cooling and is cooled by and the light therefrom filtered by water before being passed to an optical fiber applicator. This clearly demonstrates the knowledge in the art that lamps in apertured housings can be coupled to optical fiber applicators for internal application. Thus the examiner, contrary to appellant's assertion, has taken the prior Decision by the Board to heart and located a proper teaching in the art that an embodiment such as taught by Figure 1 of Eckhouse is compatible with water cooling, under certain operating conditions (e.g. producing large amounts of ultraviolet light) rather than relying in the erroneous reasoning argued in the previous appeal.

B) Claims 1-3 And 8 Are Properly Rejected Under 35 U.S.C. 103(a) As Being Unpatentable Over Eckhouse in Combination With Berry and further in combination with Gustafsson

Here appellant basis arguments concerning the supposed deficiencies of the base combination. However, as is evident from the arguments set forth in section (A) above, the base combination is entirely supported by the teachings of the references and the knowledge of one of ordinary skill in the art, and is further completely consonant with the Decision by the Board in the previous appeal. Thus these arguments are not convincing.

C) Claims 10-15, 24, And 25 Are Properly Rejected Under 35 U.S.C. 103(a) As Being Unpatentable Over Eckhouse in Combination With Berry and Gustafsson and further in combination with Anderson and Optoelectronics

Here appellant basis arguments concerning the supposed deficiencies of the base combination. However, as is evident from the arguments set forth in section (A) above, the base combination is entirely supported by the teachings of the references and the knowledge of one of ordinary skill in the art, and is further completely consonant with the Decision by the Board in the previous appeal. Thus these arguments are not convincing.

D) Claim 18 Is Properly Rejected Under 35 U.S.C. 103(a) As Being Unpatentable Over Eckhouse in Combination With Berry and further in combination with Vassiliadis

Here appellant basis arguments concerning the supposed deficiencies of the base combination. However, as is evident from the arguments set forth in section (A) above, the base combination is entirely supported by the teachings of the references and the knowledge of one of

ordinary skill in the art, and is further completely consonant with the Decision by the Board in the previous appeal. Thus these arguments are not convincing.

(11) *Related Proceedings Appendix*

ATTACHED

(12) *Conclusion*

It is the examiner's firm opinion that the appealed claims are not patentable for the reasons argued above. Appellant has presented no convincing argument as to why the rejections set forth above are not obvious or proper. Therefore, it is respectfully submitted that the rejections should be sustained.

Respectfully submitted,

/david shay/

Primary Examiner, Art Unit 3769

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September 25, 2009

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